

CONVERTING ASSESSMENT OF TRADITIONAL CLASSROOM ASSIGNMENTS TO THE e-LEARNING ENVIRONMENT

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Abstract

While assessment in an e-classroom continues to develop, with a myriad of advantages and disadvantages, it must be explored to provide assistance to e-instructors so that students receive optimal feedback. Assessment is no longer the periodic formal process of exams and graded activities, which may or may not be discussed with the class; it is now in the context of a one-on-one relationship with the e-instructor and each student in the online course (Meyen, Aust, & Issacson, 2002).

This manuscript identifies ways in which assessments in the traditional classroom can be converted for use in the e-learning environment. Focus is on ways in which the e-instructor must evaluate current assessment tools to identify the most appropriate assessment for the learner outcomes. The assessment must match the project so that e-students are aware of the key components and what will be evaluated in the assignments. With a review of current assessment techniques comes the demand for taking the time to adapt assessment so that appropriate and timely feedback may be provided to the e-students.

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Introduction

Helping e-instructors develop or enhance assessment practices for student assignments is vitally important. “An emergent problem is that assessing student work in the online learning medium poses new twists in traditional assessment methodology” (Bauer, 2002, p. 31). Several issues (i. e., lack of administrative support, lack of release time to fully develop e-courses, etc.) explain why instructors grasp at what has been working in their traditional classrooms and attempt to convert these tools to the e-learning environment (Groneman, 2004). However, simply transferring assignment rubrics from the traditional classroom to the e-learning environment is not always the best decision. This manuscript will assist e-instructors to effectively (1) convert

assessment of traditional classroom assignments to the e-learning environment and (2) utilize available software to conduct assessment of students' assignments in the e-learning environment.

Background and Purpose

Evaluating students' progress is crucial to the education process. Assessment not only measures progress but also serves in a formative capacity to allow e-instructors to identify effective assessment strategies. In the e-learning environment, objective exams can be programmed to automatically record a grade for students upon completion. Objective exams can also be designed to provide immediate, appropriate feedback. This assessment strategy helps reduce the time e-instructors spend grading and providing feedback to students (Groneman, 2004). However, not all assessments can be programmed to provide automatic scoring and feedback, and objective exams are not always the most appropriate assessment tool.

According to Meyen, Aust, and Issacson (2002), technology adds a level of efficiency to assessment. Moreover, to increase personal contact and observation, more and varied ways of assessment are necessary. In discussing e-student assessment, Harasin, Hiltz, Teles, and Turoff (1996) stated "In keeping with a learner-centered approach, evaluation and assessment should be a part of the learning-teaching process, embedded in class activities and in the interactions between learners and between learners and teachers" (p. 167). This statement is another indication that the assessment must be appropriate and provide accurate feedback to students.

A variety of assessments must be used to accurately assess the multitude of interactions and activities that exist in an e-learning environment. The main interactions include the following: (1) peer-to-peer interaction (PPI), (2) professor-to-student interaction (PSI), and (3) student-reading activities (SRA) (Crews, 2006). With the use of available technologies, e-instructors can assess students' work, enhance the interaction, and provide substantial individual feedback. This process will provide appropriate formative and summative evaluation.

Utilize Current Assessment Tools for Online Instruction in the e-Learning Environment

When utilizing effective assessment tools for e-learning, instructors should ascertain if familiar traditional classroom assessment techniques can be adapted for e-assessment. Familiar traditional assessment techniques include peer- and self-evaluation as well as teacher assessments. Also, varieties of assessment tools are available for purchase and are available through course management systems. A discussion of current assessment tools, including rubrics, is included in this section.

As noted by Robles and Braathen (2002), "online assessment must be used to measure both learning objectives and application of knowledge" (p. 30). This philosophy is true for traditional and e-learning assessment; however, traditional assessment techniques may need to be adapted to effectively measure the objectives and knowledge. E-students must become more responsible for their learning and be self-motivated to learn in a self-paced e-environment as well as to work individually and in group projects (Groneman, 2004). Gillette (1999) notes that "teaching through the web requires

instructors to reconsider their previous assumptions about the nature of teaching, lecture, testing, and student/teacher interaction” (p. 21). Assessment must also be thoroughly planned to ensure a proper methodology of assessment.

Assessment is a viable component of learning and is no exception in e-learning. Assessment allows the e-instructor the opportunity to provide appropriate feedback to students as well as to gauge the amount of learning achieved. According to Bloom’s taxonomy of learning, students learn on different levels. Bloom’s taxonomy includes the following: knowledge, comprehension, application, analysis, synthesis, and evaluation (Anderson & Krathwohl, 2001). Similarly as the students learn on different levels, assessment must also be provided on different levels.

Assessment for this article is defined as authentic feedback provided consistently to students to enhance formative learning on a variety of levels (Fulkert, 2000). To adequately complete assessment, the following must occur:

1. Learning objectives/outcomes defined
2. Learning objectives/outcomes communicated
3. Proper assessment type chosen
4. Proper assessment type implemented
5. Rubrics developed including objectives/outcomes
6. Rubrics implemented

Synchronous

Assessment in the traditional classroom is often provided as immediate verbal feedback. This assessment is done synchronously in the classroom environment. Assessment in e-classrooms may occur synchronously or asynchronously. Synchronous assessment typically involves active assessment such as assessing students involvement or interaction. This may be accomplished by simply requiring students to respond via threaded discussions and then calculating the number of times students respond. However, a more adequate assessment involves the quality of content involved in students’ responses (Conrad & Donaldson, 2004).

One of the most difficult tasks an e-instructor faces is determining how to evaluate the quality of students’ discussions. In the traditional classroom, instructors can see and hear students so they can assess interactions based on the total physical response. In the traditional and e-environment, instructors must be able to gauge the depth and quality of thought students put into their discussions. However, without the physical responses, more time is required for e-instructors to do so. E-instructors should emphasize quality and not quantity of student responses to show students that they are interested in how students think—“. . . how much they relate the subject matter to their experiences and prior knowledge, and how much their competence in the subject matter is progressing” (Bender, 2003, p. 149).

Software. E-instructors should make use of software that is available to assist them in the task of assessing online discussions. A free tool that can assist e-instructors to assess “student participation and interactivity, and that [sic] can quickly perform content analysis and sequence analysis (message-response sequences) when messages are labeled

by students at the time they post the messages to the discussion forums” is ForumManager (The Forum Manager, 2006, para. 1). ForumManager “is a Microsoft Excel program that downloads threaded discussions from Blackboard while using the Internet Explorer browser” (The Forum Manager, 2006, para. 1). ForumManager also allows e-instructors to perform any other desired operations or analyses on the threaded discussions. “The analysis results produced by ForumManager include the average number of discussion entries per participant, the level of interactivity, richness of the discussion, and depth of the discussion.

These assessment data can be used as one factor in formulating a grade or to prompt additional interactions and provide feedback that encourages deeper critical thinking in online discussions” (Conrad & Donaldson, 2004, p. 26). ForumManager works most effectively when students are required to insert a label or a mnemonic abbreviation into titles for each message. These labels or abbreviations identify the main function of any message (i.e., ARG for argument; EVID for evidence, among others). When attempting to review or assess the quality of any given type of message, instructors “harvest messages of any given event or label (e.g., ARG, EVID, etc.), display frequencies of postings across designated labels (e.g., number of arguments, evidence, etc.), and count the number of observed two-event sequences/interactions based on labels (e.g., ARG-EVID)” (The Forum Manager, 2006, para. 18).

One drawback is that ForumManager works only with Blackboard Version 6.0 and higher. The latest update to the website, though, shows that the following features will be added to The Forum Manager in the near future: (1) individual participation grade reports can be automatically emailed to each student, and (2) instructors who use WebCT will be able to download discussions from that platform as well (The Forum Manager, 2006).

Rubrics. In traditional and e-classrooms, instructors create rubrics to measure students’ performance. However, rubrics may need to be adapted for the e-environment. For example, a rubric may be used to define the expected performance levels for online discussions. That rubric would differ from one used to measure performance in the traditional classroom. While the creation of rubrics can be time consuming, students and teachers are better able to understand expectations for an assignment “when evaluation criteria are provided at the time a task is assigned. A rubric clearly specifies the expectations for the activity and the effort required by the student to achieve a desired score” (Conrad & Donaldson, 2004, p. 27). For help in creating effective rubrics for project-based learning in a timely manner, RubiStar (<http://rubistar.4teachers.org>, 2006) may be beneficial.

When crafting a rubric for an online discussion activity, instructors should specifically take care to list each component of the activity, to define the varied effort levels, and to ascribe point values to each level. The sample rubric in Figure 1 covers two areas: (1) responses to the discussion questions posted and (2) responses to other learners’ postings.

Figure 1. Sample Grading Rubric for Online Discussion

Total Points and Course Grade

A total of 200 points may be earned in this course. A maximum of 100 points may be earned through Course Room participation and a maximum of 100 points may be earned in the final project.

180 to 200 points: A

160 to 179 points: B

159 points or less: C

Course Room Participation

Course Room participation points are divided into two categories: (1) responses to the discussion questions presented in each unit (50 points), and (2) responses to other learners (50 points).

Response to the course Room discussion question (50 points):

- 45 to 50 points:
1. A minimum length of 100-250 words per response.
 2. Discussion is substantive and relates to key principles.
 3. Uses personal/professional examples demonstrating application of principles.
 4. Is submitted according to the deadlines in the course schedule.
 5. Language is clear, concise, and easy to understand. Uses terminology appropriately and is logically organized.
- 40 to 44 points:
1. A length of 50-100 words per response.
 2. Makes reference to key principles, but is not well developed or integrated in the response.
 3. Refers to personal/professional examples, but is not well integrated in the response.
 4. Submitted according to the deadlines in the course schedule.
 5. Is adequately written, but may use some terms incorrectly; may need to be read two or more times to be understood.

Figure 1. Sample Grading Rubric for Online Discussion (continued)

- 40 to 44 points:
1. A length of 50-100 words per response.
 2. Makes reference to key principles, but is not well developed or integrated in the response.
 3. Refers to personal/professional examples, but is not well integrated in the response.
 4. Submitted according to the deadlines in the course schedule.

5. Is adequately written, but may use some terms incorrectly; may need to be read two or more times to be understood.

35 to 39 points:

1. Is less than 50 words.
2. Contains no reference to key principles; if key principles are present, there is no evidence the learner understood principles, or key principles are not integrated into the response.
3. No reference to personal/professional examples.
4. Poorly written; terms are used incorrectly; cannot comprehend learners' ideas after repeated readings.

Responses to other learners (50 points):

45 to 50 points

1. Is substantively related to and reinforces the unit overview, text, and/or supplementary readings.
2. Responds to the ideas and concerns of other learners.
3. Is characterized by three to four of the following criteria:
 - a. thought-provoking
 - b. supportive
 - c. challenging
 - d. reflective
4. Is submitted according to deadlines in the course schedule.
5. Language is clear, concise, and easy to understand; uses terminology appropriately and is well organized.

40 to 44 points

1. Contains references to unit overview, text, and/or supplementary readings, but references are not well integrated in the response.
2. Response is peripherally related to the ideas and concerns of other learners.
3. Is characterized by one or two of the following criteria:
 - a. thought-provoking
 - b. supportive
 - c. challenging
 - d. reflective
4. Submitted according to deadlines in the course schedule.
5. Adequately written, but may use some terms incorrectly; may need to read two or more times to be understood.

Figure 1. Sample Grading Rubric for Online Discussion (continued)

35 to 39 points

1. Contains no reference to key principles; if key principles are present, there is no evidence learner understood principles, or key principles are not integrated in the response.
2. Response is unrelated to the ideas and concerns of other learners.

3. Response is not thought-provoking, supportive, challenging, or reflective.
4. Response is not submitted by due date.
5. Is poorly written; terms are used incorrectly; instructor cannot comprehend learner's ideas after repeated readings.

(Palloff & Pratt, 2003, pp. 158-160)

In addition to online discussions, many instructors choose to have e-learners participate in chats. "The chat room allows for brainstorming sessions, discussions of hot topics, team planning, and question-and-answer forums" (McC Campbell, cited in Bauer, 2002, p. 32). E-instructors feel that the chat room forum comes closest to simulating the actual traditional classroom meeting because e-learners can share in both the teaching and learning in an e-environment.

Providing e-learners with an opportunity to obtain a participation grade from the chat sessions can result in a greater focus on critical thinking and active learning by these students. If e-instructors simply desire e-learners to "chat" and do not offer an evaluation of participation in these activities, those instructors are often relegated to talking to themselves. "Students in a regular classroom can often be nudged into contributing to a discussion, but there is no prodding a student who has not logged into the chat room" (Bauer, 2002, p. 33). The rubric in Figure 2 can be used for assessing chat participation.

Figure 2. Rubric for Assessing Chat Participation

Number of

Points	Skills
9-10	Logs in for chat at prescribed time; participates in entire chat; participates consistently; does not deviate from discussion thread; responds to questions when appropriate; does not require prompting from e-instructor to participate.
7-8	Logs in for chat at prescribed time; does not deviate from discussion thread but participates in some topics more than others; requires occasional prompting from e-instructor to encourage participation.
5-6	Occasionally does not log in for chat at prescribed time; participates sporadically; disappears from chat for extended periods; contributes infrequently; often requires prompting from e-instructor to encourage participation.
1-4	Misses entire chat session without explanation; displays little evidence of following discussion; rarely participates without prodding or prompting from e-instructor.

(Adapted from Bauer, 2002)

Of course, e-instructors will find that slow typists are at a distinct disadvantage when assigning grades for online chat sessions that involve only participation, not the quality of the content proffered during the participation. While some e-instructors may find it sufficient to assign grades for participation, others may desire to create a rubric that includes evaluation of the quality of contributions made by the e-learners. Figure 3 is an example of a rubric that can be used to assess the content of e-learners' chat contributions.

Figure 3. Rubric for Assessing the Content of Chat Contributions

Number of Points	Skills
9-10	Contributions follow required chat guidelines. E-learner engages in and follows discussion threads; comments are clear. Contributions reflect an understanding of key concepts. E-learner asks frequent questions and challenges the thinking of others.
7-8	Contributions follow required chat guidelines. E-learner engages in and follows discussion threads; most comments are easy to understand. Contributions are usually relevant. E-learner posts occasional questions.
5-6	Contributions occasionally deviate from required chat guidelines. Comments are often short, irrelevant, and occasionally incoherent. Some comments appear forced.
1-4	Contributions at this level add nothing to the chat session. E-learner's attempt at lengthy responses results in unintelligible contributions.

(Adapted from Bauer, 2002)

Asynchronous

E-learning environments offer another tool that can become part of the assessment process—the bulletin board. “The asynchronous nature of the bulletin board makes it a popular tool for online professors. Compared to the chat room, it is much easier to facilitate and is not dependent on the clock” (Bauer, 2002, p. 34). While the bulletin board may be lacking in the immediacy of communication offered by chat or discussion forums, it offers students an opportunity for thoughtful responses. In addition, bulletin boards also provide e-learners sufficient time to ensure their responses adhere to the rules of grammar, usage, and spelling. Moreover, non-native English e-learners may find the bulletin board forum a more palatable approach to contributing to classroom discussions because they are able to reflect on their responses and formulate them carefully before submitting them. This process is not possible in discussion and/or chat environments.

“The assessment of student work on the bulletin board differs significantly from that in the chat room. If the analogue to chat is the classroom discussion, the analogue to the bulletin board is the hard-copy essay. In this sense, postings can be set to the same

criteria that the professor establishes for grading the essay” (Bauer, 2002, p. 35). Since e-learners have sufficient time to ensure that bulletin board postings are of the highest quality, Figure 4 suggests a rubric for assessing postings on the bulletin board.

Figure 4. Rubric for Assessing Student Postings on the Bulletin Board

Number of

Points

Skills

- | | |
|------|---|
| 9-10 | Demonstrates excellence in understanding key concepts; critiques work of others; encourages discussion; cites works in support of opinions; readily expresses new interpretations of discussion material. E-learner clearly, concisely expresses ideas and uses appropriate vocabulary. |
| 7-8 | Demonstrates understanding of most major concepts; offers occasional divergent viewpoint or challenge; shows some support for opinions. E-learner demonstrates disorganization with some expression, and transitions are faulty. |
| 5-6 | Demonstrates shallow grasp of the material; rarely takes a stand on issues; offers inadequate levels of support. E-learner garbles message because of poor language use. Occasional idea surfaces clearly; expression seems disjointed. E-learner uses too many simple sentences and uses redundant words and comments; paragraphs often appear unrelated to each other. E-learner requires constant prompting for contributions. |
| 1-4 | Posts minimal number of responses. E-learner postings reveal no significant understanding of material. Language is mostly incoherent. When prompted, e-learner does not readily respond. |

(Adapted from Bauer, 2002)

Peer/Self. Peer assessment is also a component of the assessment process in the traditional and e-environment. Typically peer evaluations involve a self-assessment as well. Students may post work in progress for other students to evaluate and provide feedback. However, students may also be assigned a virtual group project and at completion, as a reflective process, complete a peer and self-evaluation. An example of a peer/self evaluation is provided in Figure 5.

In the e-learning environment, e-instructors have opportunities to utilize many of the same activities used in the traditional classroom. The differences lie in the manner in which these activities are implemented and assessed.

Role Playing. As in the traditional classroom, the e-learning environment allows e-instructors to utilize role play activities to offer students additional learning opportunities. Depending on course content, e-instructors can develop cases that require students to assume assigned roles and to take a walk in the shoes of people they may eventually work with outside of the classroom setting (Palloff & Pratt, 2005, p. 57). Role playing offers e-learners the opportunity to apply skills and knowledge acquired in classes to real world settings within the safe confines of an e-learning environment. Because the role playing activity offers a hypothetical approach to learning, e-learners

can apply critical thinking skills as role playing “. . . asks learners to reflect on a situation, discuss it with others, bounce ideas off of others based on what they learn about a particular role, and push them to develop common, consensual solutions to often difficult problems” (Palloff & Pratt, 2005, p. 57).

Figure 5. Sample Peer/Self Evaluation

NAME: _____ PROJECT: _____ _____ _____					
PROJECT – PEER EVALUATION: Group Grade: _____ Individual Grade: _____					
1) Evaluate yourself and the other group members on a scale of 1 to 10, with 10 being the highest. Please be honest in your evaluation. 2) List group members' names in the blanks at the top of the columns.					
NAMES →	YOU	Other Member	Other Member	Other Member	Other Member
1) Prepared for the meetings					
2) Communicated ideas clearly					
3) Completed work promptly					
4) Overall worked well with others					
5) Exhibited dependability					
6) Displayed a courteous attitude and listened carefully to others					
7) Showed tolerance for others' ideas					
8) Took a leadership role					
9) Quality of contribution					
10) Quantity of contribution					
TOTAL POINTS					

E-instructors can engage learners in the role play activity, and after hearing the information provided by all team members, learners who participated in the role play can compose a position paper (essay) to establish and support their specific point. E-learners can be required to post position papers on the bulletin board so that all team members can read, reflect, and respond accordingly. E-instructors can have learners post comments for a specific number of essays (perhaps two) of team members.

In assessing e-learners for the role play activity, e-instructors should require that learners conduct self-assessments. Learners could be required to respond to such statements as “What I learned about (the case topic would be inserted here) . . .” “What I learned about working with others in an online team . . .” and “The time and effort required to complete this role play activity compared to what I learned was . . .” (Conrad & Donaldson, 2004, p. 31). In addition, as with any team or group activity, e-learners should be required to complete peer assessments of each member of the team and of the essays submitted by each team member.

Debates. Debates can be an active way to encourage and develop e-learner interaction with one another. In addition, debates can also encourage students to think critically about topics, particularly since they would be supporting their own positions with research and evaluating others’ positions as well. E-instructors can use debates as a way for learners to assume roles or to “engage in a fictitious dialogue and debate with one of the authors of a book they are currently reading or one or more of the critical theorists who have contributed to the body of knowledge being studied” (Palloff & Pratt, 2005, p. 85).

As with traditional instruction, e-instructors are cautioned, however, when setting up debate activities to choose topics that are not too controversial in order to refrain from causing personal attacks or flaming. The topics selected for debates, though, should be cutting edge and mildly controversial enough so that e-learners are able to take a position on the subject. E-instructors should also establish rules of conduct for these debate activities. E-learners should be given these guidelines in advance so that they know to maintain professionalism in their communication and to stay on target during their debates.

The discussion board can be used in the e-environment for learners to post position papers. E-instructors can structure the rules of the debate so that learners are asked to respond to a certain (perhaps two or three) number of learners with whom they disagree and to engage in a mini-debate with those individuals so that a minimum number (two or three) of ideas are exchanged.

In assessing debates, e-instructors should have learners “reflect on their learning from participating in the debate and to evaluate the activity as a learning activity” (Palloff & Pratt, 2005, p. 86). In team situations, peer assessments would also be a useful tool for e-instructors to utilize in the debate activity. The peer assessments would aid the e-instructor in determining participation and contributions of each individual to the team’s overall debate position.

Obviously assessment includes a variety of student work (i.e., individual, group, projects, reports, etc.). Therefore, a variety of assessments are necessary. Other assessments briefly discussed in this section include e-portfolios, e-journals, plagiarism identification.

e-Portfolios. Another powerful use of technology in the classroom is e-portfolios. A student's compilation of work is a better representation of student's ability than an abstracted grade (Niguidula, 1993). E-portfolios may be used for a variety of purposes: assessment, presentation, and developmental (Mason, Pegler, & Weller, 2004). Webfolio is also a term used in a similar fashion. Barrett (2003) noted the characteristics of e-portfolios as:

1. Collection
2. Selection
3. Reflection
4. Projection
5. Presentation

All five components must be assessed to provide complete feedback to students. E-portfolios are advantageous to traditional portfolios due to not only their portability, but also the development of repositories of information and adaptability of output (Ittleson, 2001). Chang (2001) also notes that e-portfolios serve as an improved assessment due to the individual, reflective, authentic, and interactive features.

e-Journals. Journals may serve as reflection or creative opportunities for students. Course management tools now include e-journals to provide easy access. Blackboard Course Management has a new web extension that incorporates online journaling. These online journals allow for students to add journal pages or to view their journal entries. The benefit for e-instructors is the ability to view and leave comments in the journal for students. The e-journal will also allow e-instructors to list journal entries by a specific field and view a student's journal production (New Features Handout, n.d). E-journaling can provide a seamless assessment tool for educators that are currently using Blackboard and can create an environment of discourse between the student and the educator (New Client Success, n.d.).

Plagiarism

Assessing written reports has been a part of the teaching process for years. However, checking that same document for plagiarized information has now become easier to assess in the e-environment. Software packages such as TurnItIn and Safe Assignment review word processed documents and assign a percent value as they assess a similarity of words used in the document to those used elsewhere (i.e., Internet sites, other students' work).

These software packages may be utilized as feedback assessment tools so that students may submit a document in rough draft format, view word similarity percentage, and have the opportunity to review the document.

Utilizing Available Software to Conduct Assessments of Student Assignments

This section addresses a form of assessment that is unique to e-learning. Software is available to assist e-instructors in assessment within an e-learning environment. Examples of software packages are Captivate, Camtasia, SnagIt, and Impatica. These similar programs assist the e-instructor by offering comprehensive and powerful screen capture utilities, providing advanced features and tools for organizing and editing screen captures. These programs allow e-instructors to connect with their audience by creating interactive demonstrations but can also be used as effective assessment tools incorporating auditory and visual feedback. With full-motion recording capability to record the screen and voice, e-instructors can create assessments with selected or whole screen shots.

“The assessment of written projects should not end with electronic marking” (Gray, 2002, p. 41). Students need additional input from the e-instructor. Numerous strategies may be employed to provide ample and relevant comments electronically. By utilizing various technologies, the e-instructor can encourage students to ask follow-up questions about assignments or to provide detailed comments to explain an area of concern. Breeze and Centra are software packages that have proven to be beneficial in transitioning e-learning into a more interactive process. These software programs allow e-learners and e-instructors to interact in a format similar to an enhanced chat room. “Using the technology for a training session, for example, an instructor can speak to a class scattered across multiple geographic locations, direct them to fill in answers on a quiz through their desktop browsers, and illustrate the students’ level of understanding by showing scores or other forms of feedback assessment” (Babcock, 2005, p. 1).

While utilizing Breeze or Camtasia, the e-instructor uses a web camera and microphone so that students can see and hear the e-instructor in an interactive e-environment. These assessment tools are useful as students’ documents can be opened and items can be discussed. Breeze and Centra also allow for assessments to be recorded and published to a URL that is given to all students or only to a particular student in the course. Software packages such as these provide interaction and conversation in both synchronous and asynchronous formats.

The use of Breeze and Centra becomes the interactive bridge among students and between students and e-instructor. The ability to perform duplex interaction with these software products with only a web camera, speakers, and microphone allows students to develop trust and a relationship with the e-instructor as well as with other students participating in the e-environment. A University of Massachusetts study found a positive correlation between student attitudes toward their e-learning experiences and student-instructor interaction (SII) when these types of assessment tools were utilized. The study also stated that students’ attitudes are positively correlated with increased contact with the instructor (The Connection Between, 2004).

Convert Assessment of Traditional Classroom Assignments to the e-Learning Environment

In the traditional classroom, instructors can manage assessment of student assignments in a variety of ways. Students sometimes earn grades or points for

participation in classroom discussions, points for extra credit activities such as attending seminars or special presentations, and points or grades for in-class writing or speaking assignments. In addition, instructors may engage students in classroom debates, simulations, or team projects. Some instructors utilize “game show” type activities for reviews for chapter, unit, or other comprehensive examinations (Classroom Jeopardy!©). Many use handheld devices, often called response units, as a practical approach for assessment of students’ learning in the classroom, one that does not require a paper-and-pencil “test” or review.

The first step for an instructor in converting assessment of traditional classroom assignments to the e-learning environment involves adapting those classroom-based activities to the e-learning environment. Activities that may work well for students in the traditional classroom can often be problematic for the e-learning environment. Therefore, activities used in the traditional classroom must be scrutinized to determine if they contribute to learning outcomes for the e-learning course—or if these activities would serve to complicate the course content and cause the e-learners to become dissatisfied.

The e-learning environment has problematic elements because of the absence of visual and verbal cues. In a traditional classroom, instructors can determine students’ engagement through energy and sound levels. When discussions grow animated and students become reluctant to change tasks, instructors know that students are engaged in learning. In the e-learning environment where these verbal and visual cues are absent, how can an instructor create that same excitement and engagement?

“The primary indicators of engagement in an online learning environment are the amount of interaction between students and the quality of that interaction” (Conrad & Donaldson, 2004, p. 24). Because of the importance of engagement in the e-learning environment, e-instructors must build effective assessments of engaged learning into the structure of their courses. “Traditional exams with multiple-choice questions are adequate for the knowledge and comprehension levels of Bloom’s taxonomy but cannot accurately measure the depth of critical thinking and reflection that occurs in an engaged learning environment. Evaluation of critical thinking and reflection requires assessment methods that encourage individual expression, perhaps through answering open-ended questions or completing a culminating project” (Conrad and Donaldson, 2004, p. 25). Self-assessment activities can also be included in an e-learning course; however, students must have opportunities to complete these activities or other “nongraded” ones to encourage exploration in a nonthreatening environment.

When converting traditional classroom activities to the e-learning environment, e-instructors should remember that these activities require assessment tools to be developed and/or modified from traditional classroom assessments. Discussion postings, projects, papers, and student-led discussions are important in the engaged learning environment but assessing students’ participation and work product necessitates the development of discussion analysis tools, rubrics, team assessment tools, and reflective self-assessments (Conrad & Donaldson, 2004).

Palloff and Pratt (2003) developed the following principles for student assessment in an e-learning environment:

- Design learner-centered assessments that include self-reflection.

- Design and include grading rubrics to assess contributions to the discussion as for assignments, projects, and collaboration itself.
- Include collaborative assessments through publicly posting papers along with comments from student to student.
- Encourage students to develop skills in providing feedback by providing guidelines to good feedback and by modeling what is expected.
- Use assessment techniques that fit the context and align with learning objectives.
- Design assessments that are clear, easy to understand, and likely to work in the online environment.
- Ask for and incorporate student input into how assessment should be conducted. (pp. 101-102)

Examples of Assignments

E-Instructors can convert many assignments from the traditional business classroom to the e-learning environment. For example, in a business education methods course, the e-instructor can create a sample lesson plan and assess it as if it were created by a student. The e-instructor will open the lesson plan, turn on Camtasia or Captivate, and record voice and screen movement while moving through the lesson plan discussing positive and negative aspects. Students can then view the “assessment” of the sample lesson plan and learn how to better write the lesson plans in the appropriate format with the proper content. This assessment can be viewed by students prior to composing their first lesson plan.

In a web design course, the e-instructor can open the student-created web site simultaneously with a screen capture program. The e-instructor can navigate through students’ web sites making comments about links, color contrast, HTML coding, etc. In a business communications course, the e-instructor can use SnagIt to capture screen shots of correctly written resumes and/or letters. The screen shots can be placed in PowerPoint that is impaticized, to compress the file size and allow students to view the file(s) through any browser. As students view the PowerPoint presentation through the Internet, their learning is supported by the ease of access and availability of the PowerPoint. By including a rubric in the PowerPoint presentation, e-instructors allow students to view the expectations of the assignment

Online Assessment and Academic Dishonesty

Whether the classroom is traditional or virtual, academic dishonesty is a viable concern. Dick, Sheard, Bareiss, Carter, Joyce, Harding and Laxer (2003) noted 12 studies that reported on the average that 75% of all college students cheat at one time or another during their college career. Another study suggested that when communications decreases between student and educator, cheating increases. A student who feels distant from his/her teacher cheats more (Burgoon, Stoner, Bonito, & Dunbar, 2003).

One study noted that using e-assessment decreased the incidences of cheating. This phenomenon was attributed to the type of student who participated in e-learning in

the early 2000s. As educators begin to integrate online assessment in a variety of classroom settings, they may see that anecdotal evidence changes as the online option is offered to a broader audience who might not have choices in types of learning (Rowe, 2004). Recognizing the opportunities of cheating is the responsibility of the instructor. E-instructors must be proactive in their approach to cheating, especially when using e-assessment. Strategies can be developed and incorporated that can reduce the incidences of academic dishonesty. E-instructors must create a tone of responsibility in using e-assessments.

Himman (2000) identified three possible approaches to minimizing academic dishonesty in e-assessment. The first approach is the virtue approach, which is to help develop students and promote a climate that discourages cheating. The second approach is the prevention approach, which seeks to eliminate or minimize the opportunities for cheating and to reduce the pressure to cheat. The third approach is the policing approach, which is a reactive approach that catches cheating and punishes the culprit.

Olt (2002) focused on the second approach of Himman, which is to implement a prevention approach. The four strategies for the prevention approach focus on certain problems and work to reduce occurrences using different methods. The first strategy that Olt reported is for the educator to acknowledge the issues of cheating in e-assessment and to plan for them when designing classroom assessments. E-instructors must find ways to overcome cheating issues by using a variety of assessment tools. Cox (as cited in Olt, 2002), the author of the book *Taming the Electric Frontier*, suggested this approach to online assessment:

Cox's approach recommends using a series of small, sequential, individualized tasks and student-centered personal responses to provide multiple checkpoints during the online course and ensure that students, in order to complete the assignments, have to keep up with the class readings and respond to class assignments themselves. Multiple, individualized tasks are harder to counterfeit because of the necessary coordination and planning involved for the student to arrange for someone else to do the work in a timely, and appropriately specific manner. (as cited in Olt, 2002, p. 3)

One common thread in this strategy is interaction. The more interaction students are required to have with the instructor(s) and other student(s), the less likely cheating can occur. The planning and complexity of these types of assessments limit the amount of cheating because of the complexity of organizing someone to cheat for the student.

The second strategy from Olt (2002) to minimize academic dishonesty is to take the time necessary to design effective e-assessments. The first strategy reported that the e-instructor should utilize a variety of types of assessments. However, time and effort are necessary to create or adapt examples of assessments. Although utilizing the course web tools to grade examinations may be easier, it may not be conducive to academic honesty. Rotating course curriculum assessment or creating original authentic assessment requires creativity on the student's part. This third strategy is heavily dependent on the second strategy because it takes time to develop and grade these assessment tools.

The final strategy for online assessment is to inform and discuss regularly the academic policy of the course. E-instructors should notify students at the beginning of the

course the expectations of academic honesty regarding students and their assessments. The academic policy should be an integral part of the syllabus and posted within the course management tools if used. Students must be unable to state they were unaware of the academic honesty policy.

In a document called "A Letter to My Students," Taylor (n.d.) addressed academic integrity in a positive vein. Student responsibility is outlined and a focus on the positive aspects of academic honesty is provided instead of the negative consequences of cheating. Cheating has always played a role in assessment. The best strategy is one of reality and proactivity. E-instructors must realize that e-assessment brings unique challenges. Academic dishonesty has always been born out of ingenuity of the student. Educators have to be ingenious in developing e-assessments that are both complex and original to detract and distract students who are considering cheating.

Conclusions

While assessment in an e-classroom continues to develop, with a myriad of advantages and disadvantages, it must be explored to provide assistance to e-instructors so that students receive optimal feedback. Assessment is no longer the periodic formal process of exams and graded activities, which may or may not be discussed with the class; it is now in the context of a one-on-one relationship with the e-instructor and each student in the online course (Meyen, Aust, & Issacson, 2000).

The e-instructor must evaluate current assessment tools to identify the most appropriate assessment for the learner outcomes. The assessment must match the project so that e-students are aware of the key components that will be evaluated in the assignments. With a review of current assessment techniques comes the demand for taking the time to adapt assessment so that appropriate and timely feedback may be provided to the e-students.

The relationship developed between PPI and PSI allow for self, peer, and instructor assessment. With programs such as Camtasia, Captivate, SnagIt, Impatica, Breeze, and Centra to assist e-instructors and e-students, online education and the assessment of assignments will evolve in the e-classroom and become an integral part of the learning process. The innovative use of these software packages will continue to enhance the educational experience for both e-students and e-instructors. Continued exploration of the use of technology as a means of facilitating instruction, constructing knowledge and skills, and assessing learning will improve the e-classroom experience.

REFERENCES

- Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing*. New York: Allyn & Bacon.
- Babcock, C. (2005). Macromedia says coordinating voice and visual presentations online is a breeze. *InformationWeek*. Retrieved September 18, 2005, from <http://www.informationweek.com/shared/printableArticleSrc.jhtml?articleID=162100842>

- Barrett, H. C. (2003). Electronic portfolios. In A. Kovalchik & K. Dawson (Eds), Educational Technology: An Encyclopedia. Santa Barbara: ABC-CLIO.
- Bauer, J. F. (2002). Assessing student work from chatrooms and bulletin boards. In R. S. Anderson, J. F. Bauer, and B. W. Speck (Eds.), Assessment strategies for the on-line class: From theory to practice. New Directions for Teaching and Learning, 91. San Francisco: Jossey-Bass.
- Bender, T. (2003). Discussion-based online teaching to enhance student learning: Theory, practice, and assessment. Sterling, VA: Stylus Publishing.
- Bloom, B.S. (Ed.) (1956) Taxonomy of educational objectives: The classification of educational goals: Handbook I, cognitive domain. New York: Longmans.
- Burgoon, J., Stoner, M., Bonito, J., & Dunbar, N. (2003, January). Trust and deception in mediated communication. 36th Hawaii Intl. Conf. on Systems Sciences, 44a.
- Chang, C. (2001). A study on the evaluation and effectiveness analysts of web-based learning portfolio. British Journal of Educational Technology, 32 (4).
- Classroom Jeopardy! EAI Education. Retrieved March 28, 2006. Available from <http://www.eaieducation.com/531636.html>
- The connection between instructional interaction and student persistence. (2004, June). Online Classroom, 7-8.
- Conrad, R. M., & Donaldson, J. A. (2004). Engaging the online learner: Activities and resources for creative instruction. San Francisco: Jossey-Bass.
- Crews, T. B. (2006). Offering an online master's degree in business education. National Business Education Association (NBEA) Yearbook, Reston, VA. In print.
- Dick, M., Sheard, J., Bareiss, C., Carter, J., Joyce, D., Harding, T., & Laxer, C. (2003, June). Addressing student cheating: Definitions and solutions. ACM SIGCSE Bulletin, 35(2), 172-184.
- Forum Manager. (2006). Retrieved March 28, 2006, from <http://bbproject.tripod.com/ForumManager/>
- Fulkert, R. F. (2000). Authentic Assessment. Assessment in Business Education (J. Rucker and R. Schoenrock, Eds.). Reston, VA: National Business Education Association (NBEA) Yearbook, No. 38.
- Gillette, D. (1999). Pedagogy, architecture, and the virtual classroom. Technical Communication Quarterly, 8, 21-36.

- Gray, R. (2002). Assessing students' written projects. *New Directions for Teaching and Learning* (Anderson, R. S., Bauer, J. F., and Speck, B. W., Eds.), 90, 37-42.
- Groneman, N. (2004). Instructional materials and the Internet. *E-World: Virtual Learning, Collaborative Environments, and Future Technologies* (D. Christopher and S. Jaderstrom, Eds). Reston, VA: National Business Education Association (NBEA) Yearbook, No. 42.
- Harasin, L., Hiltz, S. R., Teles, L., & Turoff, M. (1996). *Learning Networks*. Cambridge, MA: MIT Press.
- Himman, L.M. (2000, November 2). Academic integrity and the World Wide Web. Retrieved April 3, 2006, from http://ethics.acusd.edu/presentations/cai2000/index_files/frame.htm
- Ittelson, J. C. (2001). Building an e-identity for each student. *Educause Quarterly*, 4.
- Mason, R., Pegler, C., & Weller, M. (2004). E-portfolios: An assessment tool for online courses. *British Journal of Educational Technology*, 35 (6).
- Meyen, E. L., Aust, R. J., & Issacson, R. E. (2002). Assessing and monitoring student progress in e-learning personnel preparation environment. eLearning Design Lab. Retrieved September 10, 2005, from <http://www.elearndesign.org/papers/AssessingMonitoringStudentProgress.pdf>
- New features handout. (n.d.). Retrieved April 19, 2006, from <http://www.unf.edu/dept/cirt/events/past/blackboard/NewFeaturesHandout.pdf>
- New client success stories. (n.d.). Retrieved April 19, 2006, from <http://www.blackboard.com/extend/dev/CaseStudies.htm>
- Niguidula, D. (1993). The digital portfolio: A Richer picture of student performance. *Essential Schools*. Retrieved on November 8, 2005, from http://www.essentialschools.org/cs/cespr/view/ces_res/225
- Olt, M.R. (2002). Ethics and distance education: Strategies for minimizing academic dishonesty in online assessment. *Online Journal of Distance Learning Administration*, 5,(3) Retrieved on November 10, 2005 at <http://www.westga.edu/%7Edistance/ojdl/fall53/olt53.html>
- Palloff, R. M., & Pratt K. (2003). *The virtual student: A profile and guide to working with online learners*. San Francisco: Jossey-Bass.
- Palloff, R. M., & Pratt, K. (2005). *Collaborating online: Learning together in community*. San Francisco: Jossey-Bass.

- Robles, M., & Braathen, S. (2002, Winter). Online assessment techniques. *Delta Pi Epsilon Journal*, 64(1).
- Rowe, N.C. (2004, Summer). Cheating in online student assessment: Beyond plagiarism. *Online Journal of Distance Learning Administration*, 7(2).
- Rubistar. (2006). Create rubrics for your project-based learning activities. Retrieved April 19, 2006, from <http://rubistar.4teachers.org>
- Taylor, B. (n.d.). Academic integrity: A letter to my students. Retrieved on April 14, 2005, from http://www.academicintegrity.org/pdf/Letter_To_My_Students.pdf.
- The connection between instructional interaction and student persistence. (2004, June). *Online Classroom*, 7-8.